Date: Tue, 25 Jan 94 19:43:33 PST
From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>
Errors-To: Info-Hams-Errors@UCSD.Edu
Reply-To: Info-Hams@UCSD.Edu
Precedence: Bulk
Subject: Info-Hams Digest V94 #75
To: Info-Hams

Info-Hams Digest  Tue, 25 Jan 94  Volume 94 : Issue  75

Today's Topics:



Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party.  Your mileage may vary.  So there.
---

Date: 25 Jan 94 22:01:58 GMT
From: news-mail-gateway@ucsd.edu
Subject: Callbook Server
To: info-hams@ucsd.edu

Willie Smith writes:

>...Did the internet call book go away,...

No, it hasn't vanished, it can still be reached by telnet at

cc.buffalo.edu 2000

(notice the word "callsign" is omitted from the address).  73
--

Shawn T. Conahan, Ph.D.
N3CGT
sconahan@ccantares.wcupa.edu

---

Date: Tue, 25 Jan 1994 19:49:33 GMT
From: agate!usenet.ins.cwru.edu!howland.reston.ans.net!cs.utexas.edu!sdd.hp.com!
col.hp.com!srgenprp!alanb@network.ucsd.edu
Subject: CW filters and DSP-9
To: info-hams@ucsd.edu

Kein{nen Paul (k23690@lehtori.cc.tut.fi) wrote:

: ... I cascaded 175 Hz (-3 dB) wide
: audio filters, three stages was still usable, but four stages sounded
: horrible. The combined response for four stages is -12 dB at the 175 Hz
: bandwidth or about 70 Hz for -3 dB.

: The filter was used to monitor a distant VHF-beacon and thus most of the
: time there was only noise in the passband causing this howling sound.
: I am going to stagger tune each rection to a slightly diffrent frequency
: to get the combined -3 dB bandwidth to 150 - 200 Hz and hope to get rid
: of some of this howling.

I think you would do better to cascade 3 stages of 300-400 Hz bandwidth
(or 4 stages of slightly wider bandwidth.)  That would give you the desired
150-200 Hz bandwidth with less ringing than if you stagger-tuned
resonators with 175 Hz bandwidth.

AL N1AL

---

Date: Tue, 25 Jan 1994 20:31:07 GMT
From: news.cerf.net!pagesat.net!olivea!sgigate.sgi.com!sgiblab!sdd.hp.com!
col.hp.com!srgenprp!alanb@network.ucsd.edu
Subject: CW filters and DSP-9
To: info-hams@ucsd.edu

William E Van Horne (wvanhorn@magnus.acs.ohio-state.edu) wrote:

: I used crystal filters in old tube receivers for many years and always
: thought that ringing was an inevitable result of narrow bandwidths.  ...
: I used to think that an effective bandwidth of some
: 200-300 Hz. was about minimum and that less than that would cause so
: much ringing that weak signals would be lost.  ...

: Can someone with a great deal more technical knowledge than I have
: state just what is the minimum usable bandwidth for a 10-20 WPM CW
: signal, and how much audible ringing is truly inescapable?

For a single-resonator bandpass filter, I believe that the formula is

```
TC = 1 / (PI*BW)
```

Where TC is the time constant of the ringing (time it takes the tone to die off to .37 the initial value), PI = 3.14, and BW = 3 dB bandwidth of the filter. If you have a number of isolated, cascaded, identical resonators, then I think the above formula is still approximately correct, where BW is now the 3 dB bandwidth of the entire filter. Someone more knowledgable than I might want to post the exact formula.

When all the resonators are tuned to the same frequency, the filter shape has a humped, or rounded response. You can think of a "flat-top" filter as being made of a number of narrow-band (high-Q) filters stagger-tuned across the passband. Since each filter has a much narrower bandwidth than the filter as a whole, flat-top filters have worse ringing than "round-top" filters.

You can also make a flat-top filter by overcoupling resonators that are nominally tuned to the same frequency. Although it's not as easy to visualize, this method has exactly the same ringing problem as the stagger-tuned method.

Bottom line: There is a tradeoff between having good pulse response (less ringing) with a round-top filter, versus having a flat passband and good ultimate rejection (but poorer pulse response).

So to answer your question about minimum usable filter bandwidth:
It depends on your desired keying speed (baud rate). 48 wpm Morse code results in 20 dots per second, or 0.025 seconds between dots (50% on/off ratio.) Let's assume the tone must die off to 5% (-26 dB) of its maximum value during this off time. That requires 3 time constants:

```
TC = 3 / (PI*BW)   --->   BW = 3 / (PI*TC)

BW = 3 / (3.14*0.025) = 38 Hz
```

For a flat-top filter, the bandwidth must be greater, as discussed above.

Digital filters, whether implemented by a DSP or some other way, have a similar problem. If an IIR (infinite impulse response) filter is used, the analysis is exactly the same as with an analog filter. FIR (finite impulse response) filters have the advantage that the response decays

exactly to zero at some point.  (Whereas IIR and analog filters
theoretically have an infinite "tail.")  But even with an FIR
filter, the ringing gets longer the narrower the bandwidth.

AL N1AL

------------------------------

Date: 25 Jan 1994 16:03:42 GMT
From: news.cstar.andersen.com!news.acns.nwu.edu!casbah.acns.nwu.edu!
rdewan@uunet.uu.net
Subject: CW filters and DSP-9
To: info-hams@ucsd.edu

In article <CK5Jqz.2p9@srgenprp.sr.hp.com>, Alan Bloom <alanb@sr.hp.com> wrote:
>Kein{nen Paul (k23690@lehtori.cc.tut.fi) wrote:
>
>
>: Clark Savage Turner (turner@safety.ics.uci.edu) wrote:
>
>: > Most IF filters don't have much ring, though some, many audio filters
>: > (except DSP I understand) can ring pretty badly.
>
>: What should the audio filter frequency (and phase response) look like
>: to avoid ringing. A high-Q single stage bandpass sounds horrible, but
>: how does a filter with flat passband (eg. Butterworth or elliptic)
>: sound like or is it really required to use Bessel-response in order
>: to get rid of the hollow sound produced by noise peaks.
>
>Another name for ringing is "pulse response" since CW dots and dashes
>are really pulses of RF.  The filter shape with best pulse response for
>a given bandwidth is, I believe, Gaussian.  This is closely approximated
>by a series of cascaded single-resonator filters, all tuned to the same

... a few lines on filters and shape factors have been deleted for brevity ..

>
>Butterworth and Chebyshev filters have flatter passbands and better shape
>factors, but at the expense of poorer pulse response (ringing).

If we broaden the definition of ringing to allow for noisy signals, of
the kind encountered on the low HF bands such as 80m, then there might
be more than one source of ringing:

1.  As Al described.  Ringing that arises out of improper pulse
response.

2.  Progressive coloration of background white noise as the filter

bandwidth is narrowed.  Consider the following thought experiment:
A white noise source that produces broadband output from 300Hz to 3KHz
is fed into a fir filter.  These filters have a flat phase response and
with enough stages they have impressive shape factors. Lets say that the
filter has a center frequency of 750Hz.  As the filter is narrowed, a
progressively pure 750Hz tone will emerge.  This tone can also make
copying a CW signal difficult.

I suppose one could easily experiment by using the filter
with signals with different Signal-to-Noise ratios.

Rajiv
aa9ch
r-dewan@nwu.edu

---

Date: 25 Jan 1994 12:58:43 +0200
From: qualcomm.com!vixen.cso.uiuc.edu!howland.reston.ans.net!pipex!sunic!
news.funet.fi!butler.cc.tut.fi!lehtori.cc.tut.fi!not-for-mail@network.ucsd.edu
Subject: CW filters and DSP-9
To: info-hams@ucsd.edu

Alan Bloom (alanb@sr.hp.com) wrote:

> Kein{nen Paul (k23690@lehtori.cc.tut.fi) wrote:

[Deleted]

> : What should the audio filter frequency (and phase response) look like
> : to avoid ringing. A high-Q single stage bandpass sounds horrible, but
> : how does a filter with flat passband (eg. Butterworth or elliptic)
> : sound like or is it really required to use Bessel-response in order
> : to get rid of the hollow sound produced by noise peaks.

> Another name for ringing is "pulse response" since CW dots and dashes
> are really pulses of RF.  The filter shape with best pulse response for
> a given bandwidth is, I believe, Gaussian.

If the typical telegraph speeds would be 60 - 150 WPM, then the shape
of typical CW-filters (250 - 700 Hz) would be very important. At typical
CW-speeds (10-20 WPM) and rise and fall times (5-10 ms) the required
bandwidth is about 100 Hz or below and thus the shape of a much wider
(analogue) CW-filter doesn't radically alter the keyed waveform.

I think that the reason for the howling sound in CW-filters is that
in high-Q filters a noise pulse at (or close to) the center of the
passband is causing an oscillation that slowly decays into the

background noise. The higher the (loaded) Q is, the longer (more cycles)
this decay takes.

> This is closely approximated
> by a series of cascaded single-resonator filters, all tuned to the same
> frequency.  Examples of a "resonator" would be an LC tuned circuit, a
> quartz crystal, or a tuned cavity.

Yes, this is true for connected resonators, but you have to control the
connection between the resonators and the loaded-Q for each resonator to
get the shape you want. You can get e.g. Butterworth and Chebyshev responses
by manipulating these parameters.

However, if cascade separate individual resonators (separated by amplifying
stages or use many active filter stages) tuned to the same frequency,
the responses of individual stages add together and the resulting response
is similar to very high-Q single resonator. I cascaded 175 Hz (-3 dB) wide
audio filters, three stages was still usable, but four stages sounded
horrible. The combined response for four stages is -12 dB at the 175 Hz
bandwidth or about 70 Hz for -3 dB.

The filter was used to monitor a distant VHF-beacon and thus most of the
time there was only noise in the passband causing this howling sound.
I am going to stagger tune each rection to a slightly diffrent frequency
to get the combined -3 dB bandwidth to 150 - 200 Hz and hope to get rid
of some of this howling.

                        Paul OH3LWR

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Date: 24 Jan 1994 13:10:20 GMT
From: ucsnews!sol.ctr.columbia.edu!howland.reston.ans.net!darwin.sura.net!news-feed-1.peachnet.edu!concert!ecsgate!bruce.uncg.edu!mosier.uncg.edu!mosier@network.ucsd.edu
Subject: Famous hams
To: info-hams@ucsd.edu

In article <2hmper$ppo@solaris.cc.vt.edu> benchoff@groupw.cns.vt.edu
(Phil Benchoff) writes:
>I know this has been discussed several times on this list.  I am
>looking for a list of famous hams.

Here's my list, gleaned from others:

SOME FAMOUS HAMS...

| | |
|---|---|
| 9K2CS | Prince Yousuf Al-Sabah |
| 9M1 | King of Malaya |
| EA0JC | Juan Carlos, King of Spain |
| FO5GJ | Marlon Brando aka Martin Brandeaux, actor |
| G3TZH | Tony Dolby, brother of "the" Dolby |
| GB1MIR | Helen Sharman, astronaut |
| HS1A | Bhumiphol Adulayadej, King of Thailand |
| JY1 | King Hussein of Jordan |
| JY2 | Queen of above |
| K2ORS | Jean Shepard, author |
| K4LIB | Arthur Godfrey, TV performer (SK) |
| K6DUE | Roy Neal, television reporter |
| K7TA | Clifford Stoll, author & scientist |
| K7UGA | Senator Barry Goldwater |
| KB2GSD | Walter Cronkite, newsman |
| KC4OCA | Gordon Barnes, weatherman |
| KD6OY | Garry Shandling, comedian |
| LU1SM | Carlos Saul Menem, President of Argentina |
| N4KET | David French, CNN newsman |
| N4RH | Ralph Haller, FCC Public Radio Bureau chief |
| N6FUP | Stu Cook, baseball player |
| N6KGB | Stewart Granger (born James Stewart), actor |
| N6YOS | Priscilla Presley, actress |
| NK7U | Joe Rudi, baseball player |
| SU1VN/P | Prince Talal of Saudi Arabia |
| SV2ASP/A | Monk Apollo |
| U2MIR/UV3AM | Musa Manarov, cosmonaut |
| UA1LO | Yuri Gagarin, cosmonaut (SK) |
| VK2KB | Sir Allan Fairhall, politician |
| VU2RG | Rajiv Gandhi, Prime Minister of India (SK) |
| VU2SON | Sonia Gandhi, XYL of VU2RG |
| W0ORE | Owen Garriot, astronaut |
| W5LFL | Tony England, astronaut |
| W6EZV | General Curtis LeMay (SK) |
| W6QYI | Cardinal Roger Mahony |
| W6ZH | Herbert Hoover Jr (ARRL President, son of HH) (SK) |
| W8JK | John Kraus (astronomer/electrical engineer/antenna guru) |
| WA4CZD | Chet Atkins, guitarist |
| WA4SIR | Ron Parise, astronaut |
| WA7WYV | Andy Griffith, actor |
| WB4KCG | Ronnie Milsap, singer |
| WB6ACU | Joe Walsh, singer |
| WB6RER | Andy Devine, actor (SK) |
| OE3AH | Anton Hapsburg, Pretender to throne of Austro-Hungarian Empire |
| KZ3Y | Prophet Elijah |
| VR6TC | Tom Christian, great (great-great ??) grandson of Fletcher Christian, from the original Bounty mutineers. He lives on Pitcairn Island. |

EVEN MORE FAMOUS HAMS...

| | |
|---|---|
| KA9FAT | The Maytag repairman |
| SW1SH | Inventor of the intermittent windshield wipers |
| V0LVO | Famous car maker (and his true QTH!) |
| Mc8HAM | CEO of McDonald's |
| PER0T | A recent presidential candidate |
| AX1GOP | Another recent presidential candidate |
| JA3NYC | Owner of Empire State Building |
| VE3WON | Manager, Toronto Blue Jays |
| A1PIG | Madonna |
| IM6GUN | Matt Dillon (Gunsmoke) |
| N3POP | Orville Reddenbacker |
| KA4CNN | Ted Turner |
| CU5YRS | Mike Tyson |
| CU8YRS | Jim Bakker |
| N5KKK | David Duke |
| G3BYE | Princess Dianna |
| N6ET | Steven Spielberg |
| W2TOP/10 | David Letterman |

AND SOME SILENT KEYS...

| | |
|---|---|
| K1NG | Elvis Presley |
| K0MOO | Merlin Perkins |
| W6FLY | Amelia Earhart |
| P0LKA | Lawrence Welk |
| K0ZAP | Nicolai Tesla |
| C0ORS | Adolph Coors |
| W2UAW | Jimmy Hoffa |
| K2SNL | John Balluchi |
| W8CAR | Henry Ford |
| W4KFC | Col. Sanders |

AND A FEW OTHER FAMOUS ONES HEARD ON THE AIR...

RG8U
R2D2

steve
mosier@fagan.uncg.edu

---

Date: Sun, 23 Jan 1994 11:06:10

From: unix.sri.com!headwall.Stanford.EDU!agate!howland.reston.ans.net!
usenet.ins.cwru.edu!eff!news.kei.com!news.oc.com!utacfd.uta.edu!rwsys!ocitor!
FredGate@hplabs.hp.com
Subject: HDN Releases
To: info-hams@ucsd.edu

The following files were processed Sunday 1-23-94:

```
HAMPACK   [ HAM: Packet Communications programs ]
----------------------------------------------------------------------
APRS310.ZIP  ( 652564 bytes)  Automatic Packet Reporting System


----------------------------------------------------------------------
              652564 bytes in 1 file(s)


 Total of 652564 bytes in 1 file(s)
```

Files are available via Anonymous-FTP from ftp.fidonet.org
IP NET address 140.98.2.1 for seven days. They are mirrored
to ftp.halcycon.com and are available for 60-90 days.

```
    Directories are:
         pub/fidonet/ham/hamnews  (Bulletins)
                        /hamant   (Antennas)
                        /hamsat   (Sat. prg/Amsat Bulletins)
                        /hampack  (Packet)
                        /hamelec  (Formulas)
                        /hamtrain (Training Material)
                        /hamlog   (Logging Programs)
                        /hamcomm  (APLink/JvFax/Rtty/etc)
                        /hammods  (Equip modification)
                        /hamswl   (SWBC Skeds/Frequencies)
                        /hamscan  (Scanner Frequencies)
                        /hamutil  (Operating aids/utils)
                        /hamsrc   (Source code to programs)
                        /hamdemo  (Demos of new ham software)
                        /hamnos   (TCP/IP and NOS related software)
```

Files may be downloaded via land-line at (214) 226-1181 or (214) 226-1182.
1.2 to 16.8K, 23 hours a day .

When ask for Full Name, enter:    Guest;guest   <return>

lee - wa5eha
Ham Distribution Net

 * Origin: Ham Distribution Net Coordinator / Node 1 (1:124/7009)

---

Date: 26 Jan 94 00:06:41 GMT
From: news-mail-gateway@ucsd.edu
Subject: Internet Callbooks on line.
To: info-hams@ucsd.edu

Hello everyone:

        There is an Internet accessible call sign server sponsored
by the Rhode Island 2x2 Amateur Repeater Association, in the
Anomaly Amateur Radio Server:

     telnet ns.risc.net (155.212.2.2)  login:hamradio
         (BuckMaster and Buffalo Callbooks on line)

73 & DX de XE1RGL.

---

Date: 24 Jan 94 22:42:28 GMT
From: sdd.hp.com!hpscit.sc.hp.com!cupnews0.cup.hp.com!jholly@hplabs.hp.com
Subject: SWR meters
To: info-hams@ucsd.edu

Steve Bunis SE Southwest Chicago (doc@webrider.central.sun.com) wrote:
: Greetings -

: I'm curious as to my options on getting an SWR meter.  I've
: naturally heard much about the Bird meter, but that's a pretty
: expensive choice.

I would not exactly call the Bird meter a SWR meter, although one can
obtain the SWR from the readings. The Bird meter is an in-line wattmeter.
reads the power to and fro, and with this information and a little work
with the bamboo sticks one can come up with the SWR.

If you want something that is approxiamate, and will give you readings
in SWR, why not buy one of the cheapo RS swr meters? Or one of the
other cheapo swr meters handled by HRO, AES and the like?  They generally
are quite satisfactory. Now on the other hand if you want to know your
power out....

73, Jim, WA6SDM

jholly@cup.hp.com

---

Date: 25 Jan 1994 21:51:16 GMT
From: agate!howland.reston.ans.net!europa.eng.gtefsd.com!news.umbc.edu!eff!
news.kei.com!yeshua.marcam.com!zip.eecs.umich.edu!news2.cis.umn.edu!
gaia.ucs.orst.edu!news.uoregon.edu!@network.
Subject: The DSP nobody mentioned
To: info-hams@ucsd.edu

While a guest at the Willamette Valley DX Association meeting a few months ago, they had a demonstartion of a DSP filter which completely blew everyone away.

The main difference between the particlar unit they demonstrated and all the other units we've heard about here on the net is that fact that the filtration is all software configurable.

In addition to running the library of filters already included with the unit, you can design your own by using your PC. From what I understand of how it works, the computer samples the audio that you are analyizing. Then, this audio is displayed graphically. By highlighting the "peaks" of the display and drawing "cut-off" lines at the noise, you can build your own library of filters for various operating situations.

Thus, it is possible to construct a filter for the specific characteristics of an individual voice (great for those skeds on crowded bands, eh?).

At the meeting, a demonstration of how the filter can be used to help pull out extremely weak signals from atmospheric noise was also performed. In this instance they used a sample of a moonbounce CW signal. Without the filter, one would be hard pressed to even imagine the existence of a signal. With it, you could copy very distinctly. Don't get me wrong, it was still extremely weak, but you could copy it.

Everyone was impressed, to say the least. Especially when they found that the cost was only in the $330 range. Apparently these things sold out at Dayton last year and the backlog on orders was phenomenal.

A friend of mine, Steve, AI7W, bought one recently and here's a short description from him:

  My DSP's model is the DSP-120, it's made by Digital Interactive Signal Corp.. It has 8 programable filter memories and connects to the parallel interface of a P.C. (386 with VGA or better). It provides a real time audio spectrum display and a digital recording feature as well as providing a number of ways to custom design filters. Sets

of 8 filter designs can be stored as files on the P.C. making it possible to have an almost unlimited number of filters.

If you're interested in DSP, this is definitely wirth looking into.

---

Date: 21 Jan 94 14:51:06 GMT
From: noc.near.net!news.delphi.com!BIX.com!hamilton@uunet.uu.net
Subject: What's the best Iambic paddle?
To: info-hams@ucsd.edu

It looks like the Bencher BY-x and Vibroplex Iambic models may be the largest sellers, but I happened to see a really intriguing iambic key by Schurr. It's made in Germany out of solid brass with a plexiglass cover. The detailing is superb to look at: everything looks hand-machined and fit together with precision. Then again, maybe it _should_ look pretty good at $150, compared to $90 or $100 for the Bencher and Vibroplex keys.

What makes for a good key? I presume this is a matter of personal taste, but okay, how _do_ personal tastes run? Any advice (short of buying them all and trying them myself :-) on deciding which I'd like best?

---

Date: 25 Jan 1994 18:18:20 GMT
From: agate!howland.reston.ans.net!cs.utexas.edu!swrinde!sdd.hp.com!vixen.cso.uiuc.edu!ux2.cso.uiuc.edu!ignacy@network.ucsd.edu
To: info-hams@ucsd.edu

References <CK5Jqz.2p9@srgenprp.sr.hp.com>, <2i2u13$oud@cc.tut.fi>, <2i38ta$ki6@charm.magnus.acs.ohio-state.edu>
Subject : Re: CW filters and DSP-9

wvanhorn@magnus.acs.ohio-state.edu (William E Van Horne) writes:

>Kein{nen Paul wrote:
.....

>Can someone with a great deal more technical knowledge than I have
>state just what is the minimum usable bandwidth for a 10-20 WPM CW
>signal, and how much audible ringing is truly inescapable?

>73, Van - W8UOF

I assume that G is an average-size letter in Morse and the

transmission is at 120 wpm (2 characters/s). G's sound is:

111011101000

where 1 corresponds to key on, and the last 3 pauses are character delmiters.
Assuming that a single sinusoid cycle has 2 items (00, 10, 01 or 00),
G has 6 transitions or cycles or Hz.
So the minimum bandwith  at 120 wpm would be
 2 characters/s * 6 cycles/character =12 Hz.
Multiple by 2-3 so that dots and dahs are flatter and (probably) by 2 if
you want to copy the other sideband.

The bandwith at 120 wpm is in the range of 24-72Hz, assuming no drift,
no off-tuning and well shaped signals.

Ignacy Misztal, NO9E
University of Illinois
ignacy@uiuc.edu

---

Date: 25 Jan 1994 14:04:26 GMT
From: pacbell.com!uop!lll-winken.llnl.gov!uwm.edu!vixen.cso.uiuc.edu!
howland.reston.ans.net!usenet.ins.cwru.edu!magnus.acs.ohio-state.edu!
wvanhorn@network.ucsd.edu
To: info-hams@ucsd.edu

References <2hrk3q$4m9@cc.tut.fi>, <CK5Jqz.2p9@srgenprp.sr.hp.com>,
<2i2u13$oud@cc.tut.fi>d
Subject : Re: CW filters and DSP-9

Kein{nen Paul wrote:

>If the typical telegraph speeds would be 60 - 150 WPM, then the shape
>of typical CW-filters (250 - 700 Hz) would be very important. At typical
>CW-speeds (10-20 WPM) and rise and fall times (5-10 ms) the required
>bandwidth is about 100 Hz or below and thus the shape of a much wider
>(analogue) CW-filter doesn't radically alter the keyed waveform.

>I think that the reason for the howling sound in CW-filters is that
>in high-Q filters a noise pulse at (or close to) the center of the
>passband is causing an oscillation that slowly decays into the
>background noise. The higher the (loaded) Q is, the longer (more cycles)
>this decay takes.

I used crystal filters in old tube receivers for many years and always
thought that ringing was an inevitable result of narrow bandwidths.  In
fact, I though that basic information theory (Turing, Naiquist, et al.)

dictated it.  I used to think that an effective bandwidth of some 200-300 Hz. was about minimum and that less than that would cause so much ringing that weak signals would be lost.  Then modern 250 Hz. CW filters made me realize that as little as 100 Hz. may be OK.

A few months ago I built a kit of W9GR's DSP unit, described in QST September, 1992.  One of the modes it provides is a CW filter with 30 Hz. bandwidth.  (Yes, I said 30 Hz!)  It has a center frequency of 750 Hz. and is very effective in copying CW.  To my ears, it does very little ringing, yet is usable with quite high-speed CW.

Now I doubt that the basic physical laws have been "repealed".  One can question whether the passband is really as narrow as 30 Hz.  I have not analyzed it on laboratory-grade instrumentation, but I have made a rough measure of bandwidth.  Using my Kenwood TS940, I tuned in the carrier of a local broadcast station.  With the transceiver in CW mode, I offset the tuning to get a 750 Hz. beat note, then tuned up and down, noting the frequency on the digital counter.  I can verify that the 6 dB. bandwidth is something like 30 Hz. - certainly less than 50.

Can someone with a great deal more technical knowledge than I have state just what is the minimum usable bandwidth for a 10-20 WPM CW signal, and how much audible ringing is truly inescapable?

73, Van - W8UOF
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
*   It ain't wot you don't know 't gets you into trouble.   *
*   It's wot you know 't ain't true. - "Mr. Dooley"         *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
wvanhorn@magnus.acs.ohio-state.edu

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End of Info-Hams Digest V94 #75
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